RULE 1105.1: REDUCTION OF PM_{10} AND AMMONIA EMISSIONS FROM FLUID CATALYTIC CRACKING UNITS PLAN

SUMMARY: Evaluation of Rule 1105.1 Reduction of PM_{10} and Ammonia Emissions from Fluid Catalytic Cracking Units Plan. The Rule 1105.1 Plan was submitted, as required by Rule 1105.1(e)(3)(A) to specify the operating parameters to be monitored, the range of operating levels of each proposed parameter, and the frequency of monitoring and recording for the control equipment of the FCCU installed and operated before November 7, 2003[1105.1(e)(3)(A)].

COMPANY INFORMATION

Company Name:	Chevron Products Company, Facility ID No. 800030
Mailing Address:	324 W El Segundo Blvd, El Segundo, CA 90245
Equipment Location:	324 W El Segundo Blvd, El Segundo, CA 90245
Contact Person:	Peter Allen (310) 615-4182

COMPLIANCE RECORD REVIEW

A query of the AQMD Compliance Database for the past two years (10/1/10 to 10/25/12) identified 10 Notice of Violations (NOV) and 2 Notices to Comply (NC) that were issued to the Chevron Refinery (Facility ID 800030). The compliance database indicates that the facility is currently in compliance with applicable rules and regulations.

FEE EVALUATION

The BCAT for Rule 1105.1 plans is 666031 [Rule 1105.1 Plan (PM10)], Schedule C. Fees of $399.95 were paid when the application was submitted. No additional fees are due.

PLAN EVALUATION

The purpose of Rule 1105.1 is to reduce emissions of PM_{10} and ammonia from fluid catalytic cracking units. Facilities were required to submit a plan for monitoring of the FCCU control equipment installed and operated before November 7, 2003. This plan was to include 1) the operating parameters to be monitored, 2) the range of operating levels of each proposed parameter, and 3) the frequency of monitoring and recording.

Rule 1105.1(e)(3)(C) specifies that the operating parameters and frequency of monitoring and recording shall be selected as specified in Attachment A, unless the operator proposes other appropriate substitute parameters and frequencies for Executive Officer approval. Rule 1105.1 Attachment A (provided below) lists operating parameters for four types of FCCU control devices: Dry (or wet) electrostatic precipitators, wet scrubbers (or wet electrostatic precipitators), SO_2-reducing catalyst additives, and baghouses.

The facility makes use of dry ESPs and SO_2-reducing catalyst additives, and has provided the corresponding information from Attachment A in their plan.

Rule 1105.1 Attachment A: Operating Parameters and Frequency of Monitoring and Recording[1]		
Operating Parameters	**Monitoring Frequency**	**Recording Frequency**
Dry (or Wet) Electrostatic Precipitators		
Flue gas inlet temperature to ESP	Continuously[2]	Hourly[3]
Flue gas flow rate	Continuously[2]	Hourly[3]
Voltage and current across ESP (or total power input)	Continuously[2]	Hourly[3]
Ammonia injection rate	Continuously[2]	Hourly[3]
Wet Scrubbers (or Wet Electrostatic Precipitators)		
Flue gas flow rate	Continuously[2]	Hourly[3]
Type of scrubbing liquid and average pH	Daily[4]	Daily[4]
Scrubbing liquid flow rate	Continuously[2]	Hourly[3]
SO_2 Reducing Catalyst Additives		
Type of SO_2 reducing catalyst	Once and when change occurs	Once and when change occurs
Addition rate of SO_2 reducing catalyst	Daily[4]	Daily[4]
Pickup factor (i.e. lbs SO_2 reduced per lbs of additives)	Once and when change occurs	Once and when change occurs
Baghouses		
Flue gas flow rate	Continuously[2]	Hourly[3]
Pressure drop	Continuously[2]	Hourly[3]
Flue gas inlet temperature	Continuously[2]	Hourly[3]

Note:

1. Monitoring and recording as shown in this attachment shall not be required during periods of routine maintenance and malfunction of monitoring and recording devices.
2. "Continuously Monitoring" means monitoring at least once every 15 minutes.
3. "Hourly Recording" means recording at least one measurement every hour.
4. "Daily Monitoring" and "Daily Recording" means monitoring and recording at least one measurement every day.

COMPARISON OF RULE 1105.1 PLAN SUBMITTAL TO REQUIREMENTS

The Rule 1105.1 plan submitted by the facility was compared against the plan requirements. A summary of the plan checklist is provided below in **Table 1**. For each applicable plan requirement, compliance with the plan requirement is assessed via a checkmark in the "yes" or "no" column, and remarks are provided with details from the facility's plan.

Table 1 indicates that the facility has submitted all of the necessary information for the Rule 1105.1 Plan, and is in compliance with the plan requirements.

Table 1. Checklist for Rule 1105.1 Plan

Rule 1105.1 Plan Requirement [1105.1(e)(3)(A)]	Compliance?		Remarks
	Yes	No	
Specify operating parameters to be monitored	√		Parameters for dry ESP and SOx-reducing catalyst additives provided as specified in Attachment A
Specify range of operating levels of each proposed parameter	√		See table (below)
Specify frequency of monitoring and recording	√		As specified in Attachment A

RECOMMENDATIONS

The Rule 1105.1 Plan submitted by Chevron has been evaluated and found to comply with the applicable requirements specified in the rule. Approval of this plan, and inclusion in Section I of the facility's Title V Facility Permit is recommended, subject to the following conditions:

The operating parameters of the control equipment for the FCCU shall be monitored and recorded as follows:

Rule 1105.1 Plan: Operating Parameters and Frequency of Monitoring and Recording[1]

Operating Parameters	Range of Operating Levels	Monitoring Frequency	Recording Frequency
Dry Electrostatic Precipitator(s)			
Flue gas inlet temperature to ESP	550 – 750 °F	Continuously[2]	Hourly[3]
Flue gas flow rate	120-175 mscfm	Continuously[2]	Hourly[3]
Total power input	> 50 kW	Continuously[2]	Hourly[3]
Ammonia injection rate	0 – 3 gpm	Continuously[2]	Hourly[3]
SO_2 Reducing Catalyst Additives			
Type of SO_2 reducing catalyst	Intercat SOXGETTER	Once and when change occurs	Once and when change occurs
Addition rate of SO_2 reducing catalyst	0 – 400 lbs/day	Daily[4]	Daily[4]
Pickup factor (i.e. lbs SO_2 reduced per lbs of additives)	4.1 lb SO_2 per lb additive	Once and when change occurs	Once and when change occurs

Note:

1. Monitoring and recording as shown in this table shall not be required during periods of routine maintenance and malfunction of monitoring and recording devices.
2. "Continuously Monitoring" means monitoring at least once every 15 minutes.
3. "Hourly Recording" means recording at least one measurement every hour.
4. "Daily Monitoring" and "Daily Recording" means monitoring and recording at least one measurement every day.